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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,384	03/15/2004	Laszlo Man	03191/100G988-US2	3163

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EXAMINER	
VANAMAN, FRANK BENNETT	

ART UNIT	PAPER NUMBER
3618	

DATE MAILED: 02/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/801,384	MAN ET AL.	
	Examiner	Art Unit	
	Frank Vanaman	3618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) *9 and 12* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10,11 and 13-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6/4/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Election/Restriction

1. Applicant's election of Species I and Sub Species X, filed on Nov. 22, 2004 is acknowledged. Applicant has identified claims 1-26 as being readable on the elected embodiments. Claims 9 and 12 both include recitations of elements not shown in the drawings associated with the elected embodiment (fixed ratio rotary transfer derived from the use of pulleys of different diameters, and the use of over-running clutches); these claims appear to be directed to species other than those elected. As such, claims 9 and 12 are withdrawn from consideration; claims 1-8, 10, 11 and 13-26 are under examination.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority based on applications filed in Germany on Sept. 9, 1998; March 25, 1999; April 1, 1999; and April 15, 1999. It is noted, however, that applicant has not filed certified copies of the German applications as required by 35 U.S.C. 119(b).

Information Disclosure Statement

3. Certain foreign and non-patent references cited in the information disclosure statement filed with the instant application have been marked as not having been considered in that no copies are available to the examiner. Applicant's IDS papers refer to documents filed with or present in the parent application, however the US parent application available to the examiner does not include these foreign documents.

Specification

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

5. Claims 1-8, 10, 11, and 13-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, lines 7-8, the open ended recitation of the electro-mechanical converter being operable 'at least' as a motor

and generator is confusing in that it is not at all clear what other functions such a device might have; in claim 1, lines 12-13, the recitation of ratios automatically setting themselves is confusing, in that a gear ratio is not normally understood to be able to perform the task of setting itself; in claim 1, lines 13-19, applicant has referred to two modes as comprising either start-up and driving, or first and second- the dual recitation being confusing in view of the use of two different terms apparently being used for each mode. A single term should be consistently used for a single condition or element for clarity of recitation. Note also claims 8, 11, 13, 14, 21 and 22.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 2, 5, 6, 10, 11, 13, 15, 16-18, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Tabata et al. (US 5,935,040, filed 7/1997, cited by applicant), as best understood. Tabata et al. teach a vehicle having a power train including a combustion engine (12) with a drive shaft, a transmission (18) with an input shaft, an energy converter (14) which can operate at least as a motor and generator; with an energy converter shaft (14r) turning at a different rate; which has a rotary transfer device on the drive shaft, at a front end of the transmission, facing away from the transmission towards the engine, the converter including a rotary shock/vibration absorbing device (30), and being in the form of an interactive connection (16) including at least one gear pair (16c, 16s, 16r of the planetary gearing set including, a ring gear, sun gear, planet gear and planet gear carrier) the gears of the converter eing located

within the housing (phantom lines, element 24, figure 1), the interactive connection being connectable to the drive shaft, which can select a plurality of rpm ratios (through the operation of the two clutches CE1 and CE2) so as to function in at least two operating modes including a start-up mode (Mode 9-- for starting the combustion engine, wherein torque flows from the converter to the engine) and a driving mode (Mode 1-- for propelling the vehicle, wherein torque is delivered to the vehicle drive train) and a generation mode (Mode 3-- for charging while driving, wherein torque flows to the converter; the driving shaft extending from a rear portion of the engine, facing the transmission, where the interactive connection is located; there being provided a torque coupling device (C1, C2) for connecting and disconnecting the transmission from the drive shaft, the plural clutches forming plural torque delivery paths, each being either upstream or downstream with respect to the converter, engine and transmission, based on the operating mode (i.e., driving or starting) and the flow of torque at any selected time.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tabata et al (cited above). The reference to Tabata et al. is discussed above and fails to specifically teach the converter rpm rate as being higher than the engine rate in the starting mode, and that in one mode the rpm ratio is smaller than the ratio in another mode. It is well known in the motive-power arts to adjust the relative speeds of engines and electric machines for the purpose of operation in high-efficiency regions, or to adjust torque outputs, and as such, it would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the converter rpm rate with respect to the engine rate so that the engine is rotated at an appropriate speed for starting, when the

converter is running at a speed where it can develop sufficient torque to turn the engine. Further, it would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the relative ratios for two operating modes, for example, such that the rpm ratio of one mode is smaller than in another mode, for the purpose of adjusting the relative speeds of the rotating components, in order to insure that charging is accomplished in a most efficient speed range for the converter.

10. Claims 3, 4, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tabata et al. in view of Brinkmeyer et al. (US 5,539,286). The reference to Tabata et al. is discussed above and fails to teach the drive connection to the converter as comprising a pair of sheaves or pulleys and an endless loop or belt. Brinkmeyer et al. teaches a drive for an electrical machine wherein a pair of sheaves or pulleys (e.g., 32, 24) and an endless loop belt (15) are used to connect the machine and engine. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a pulley-and belt connection for connecting the electrical converter and engine shaft taught by Tabata et al. for the purpose of providing the converter to the side of the engine or transmission, advantageously shortening the overall length of the engine, converter and transmission assembly. As regards claim 19, the reference to Tabata et al. already teaches the use of a rotary shock/vibration damper, but fails to teach the use of such a device in a pulley. Inasmuch as the rotary dampers are well known and employed to advantage to reduce backlash in drive systems, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the rotary damper in a pulley (taught by the modifying reference to Brinkmeyer et al.) for the purpose of reducing shock and backlash in the connection between the engine and converter drive, as close to the connection to the converter as possible, thus reducing the distance shock is transferred through the drive system.

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tabata et al. in view of Fujita et al. (US 4,869,332). The reference of Tabata et al. fails to teach the connection to the energy converter as being a pair of fixed-ratio gear pairs (transfer elements, each forming a torque path), wherein one each of the respective gear sets is employed for one each of a pair of modes. Fujita et al. teach an interactive connection

between an engine drive shaft and an electrical energy converter (2) mounted on a shaft (3), including first and second pairs of fixed-ratio gear sets which serve as transfer elements (5 & 6; 7& 9) wherein each gear- or transfer element- set forms a torque path for a respective one of two modes, the flow through each path being governed by one of a pair of clutches (4, 10-- one per gear set), which are located upstream or downstream of a source of torque, dependent upon the direction of flow of the torque. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a dual gear set transfer device such as taught by Fujita et al. in place of the transfer device (16) taught by Tabata et al. in order to reduce the complexity of the connection between the converter and drive shaft, and to allow fixed transfer rates and rpm ratios between the respective operating modes of the vehicle of Tabata et al.

Allowable Subject Matter

12. Claims 21-26, as best understood, would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

13. As regards claims currently rejected under 35 USC §112, second paragraph, please note that rejections under 35 USC §102 and 103 should not be based upon considerable speculation as to the meaning of the terms employed and assumptions as to the scope of the claims when the claims are not definite. See In re Steele 305 F.2d 859, 862, 134 USPQ 292, 295 (CCPA 1962). When no reasonably definite meaning can be ascribed to certain terms in a claim, the subject matter does not become anticipated or obvious, but rather the claim becomes indefinite. See In re Wilson 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). As such the currently pending claims may be subject to prior art rejections not set forth herein upon the clarification of the claim language.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Clancy (US 2,564,393), Robin et al. (US 2,571,172), Willard (US 3,295,395), Heckenbach, Jr., (US 3,585,878), Tout (US 3,768,715), Ooyama et al. (US

5,655,990), Morisawa et al. (US 5,895,333), and Perrier et al. (DE 32 37 675 A1) teach drive and gearing structures of pertinence.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to F. Vanaman whose telephone number is 703-308-0424. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is 703-308-1113.

A response to this action should be mailed to:
Mail Stop _____
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450,
Or faxed to one of the following fax servers:
Regular Communications/Amendments: 703-872-9326
After Final Amendments: 703-872-9327
Customer Service Communications: 703-872-9325

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

F. VANAMAN
Primary Examiner
Art Unit 3618

2/9/05